

CP-850 POWER SUPPLY

USER'S MANUAL

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A NEW STANDARD

The CP Series is Antec's exclusive new high-performance power supply unit (PSU). It balances size, cost, and plenty of quality power by combining cutting-edge technology with a new form factor. The design features in this expanded form factor allow for improved component selection, better circuit board layout, more room between components for airflow, and a straight-through air path that takes full advantage of the large fan. Larger fans move more air at lower RPMs and make less noise. Antec's new CPX form factor has better airflow than any standard size PSU that uses a large fan. The CPX form factor is exclusively compatible with Antec's cutting-edge Gaming and Performance One cases, including the Twelve Hundred, P183 and P193. For an updated list of models supported please visit www.antec.com/cp850.

STANDARDS AND FEATURES

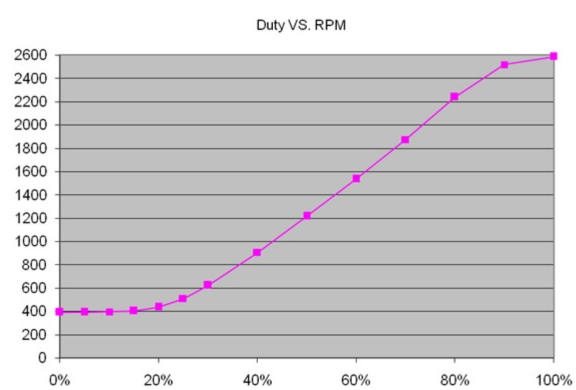
The connectors and power specifications of the CP-850 PSU are all compatible with the ATX12V v2.3 and EPS12V v2.91 specifications. The CP-850 features Universal Input, which automatically senses when you connect the power supply to any AC power source between 100～240V without setting a voltage switch. This power supply also features Active Power Factor Correction (Active PFC), which improves the power factor value of the power supply by altering the input current wave shape, helping power transmission across the grid.

SYSTEM PROTECTION

A variety of industrial-grade safety circuitry will help protect your computer: OVP (Over Voltage Protection), SCP (Short Circuit Protection), and OCP (Over Current Protection). Sometimes the PSU will "latch" into a protected state. You will need to power off the PSU and clear the fault before it will function again. There are no user-replaceable fuses in your CP-850.

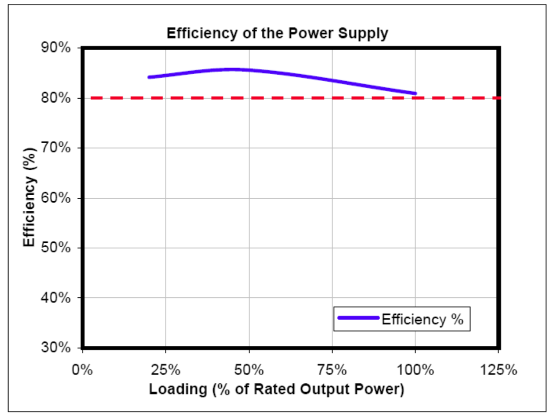
SPECIAL QUIET COMPUTING™ PWM FAN

Another innovation in your CP-850 is the use of pulse width modulation (PWM) fan technology. A PWM fan can spin much more slowly and be quieter than a voltage-controlled fan. The PSU uses a PWM fan that can spin as slow as 390 RPM or as fast as 2600 RPM, depending on load and ambient temperature. It should be nearly inaudible when your computer is idling, and the PSU will vary the fan speed depending on the load of your computer. The location of the PSU fan also helps to reduce the sound emitted by your computer.



80 PLUS® CERTIFICATION

80 PLUS® certification is the most widely recognized independent standard in power supply efficiency. An 80 PLUS® certified power supply uses less energy and generates less heat to stay cooler, run quieter and last longer. The CP-850 has been 80 PLUS® certified to be at least 80% efficient at a wide range of operating loads; this will lower your operating costs and help protect the environment.



Source: 80 PLUS® Verification and Testing Report

NVIDIA™ SLI™-READY CERTIFICATION

Antec's CP Series power supplies are NVIDIA™ SLI™-Ready certified for use with multiple high-end graphics cards for superior parallel graphics processing.

POWER OUTPUT

The CP-850 power supply distributes power on separate rails. To see the output capacity and regulation for each different voltage, see Table 1.

TABLE 1

Output Voltage	Maximum Load	Regulation	Ripple & Noise
+3.3V	24A	±5%	<50 mV
+5V	30A	±5%	<50 mV
+12V1	22A	±5%	<120 mV
+12V2	22A	±5%	<120 mV
+12V3	25A	±5%	<120 mV
+12V4	25A	±5%	<120 mV
–12V	0.6A	±10%	<120 mV
+5VSB	3A	±5%	<50 mV

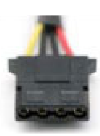
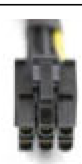
Advanced Hybrid Cable Management

The CP-850 uses Advanced Hybrid Cable Management. Cables that are important or mandatory are permanently connected to the PSU for the highest quality power delivery. There are modular jacks on the back of the PSU to add additional cables as needed. Using only the cables you need will reduce clutter and improve airflow inside your case. For the list of connected and optional cables, see Table 2.

The Modular Cable Jacks

There are two black jacks and two red jacks on the back of your CP-850 PSU. These jacks are for the optional cables that come with your power supply. The black connectors are used for Molex or SATA cables. Because of the high power requirements of modern graphics cards, the red ones are set up to handle their needs. If you are not using the red connectors for PCI-Express connectors, then you can use them for additional Molex or SATA cables as needed.

Table 2

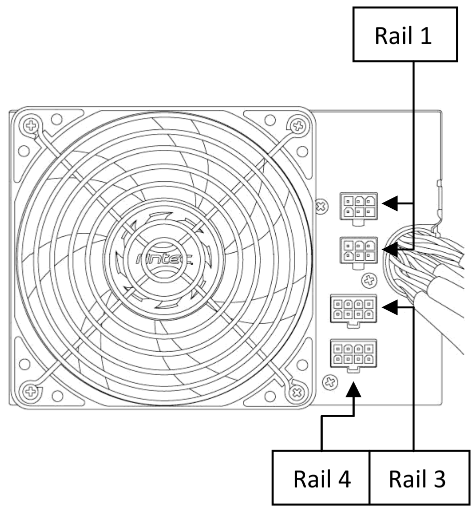
Cable Quantity	Power Connectors	Part Name	Description
N/A		Power supply direct cabling	24-pin (20+4) main connector 4-pin ATX12V 8-pin EPS12V 2×8-pin (6+2) PCI-E 3×Molex + 1×Floppy 3×SATA
2	 x 3	Molex connector w/cable	Includes three Molex connectors
2	 x 3	Serial ATA connector w/cable	Includes three Serial ATA connectors
2	 x 1	PCI-Express connector w/cable	Includes one 6-pin PCI-Express connector

+12 VOLT RAIL DISTRIBUTION

The CP-850 uses four separate +12V power rails. Different connectors are hooked up to separate circuits to aid in the balanced distribution of power between devices in your computer. The engineers have allocated the rails to different connectors, as shown in Table 3, to prevent voltage sags in one device due to sudden demands for power by another device.

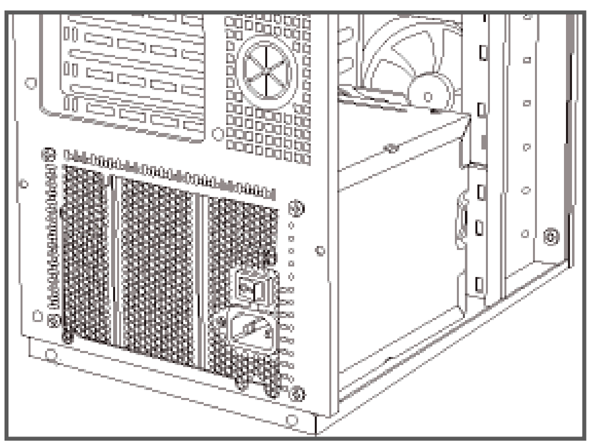
TABLE 3

PSU Direct Cabling Connector	+12V Rail
(20+4) Motherboard	1
4-pin ATX 12V	2
8-pin EPS 12V	2
PCI-E w/blue stripe	3
PCI-E w/green stripe	4
Molex cable from PSU	1
SATA cable from PSU	1



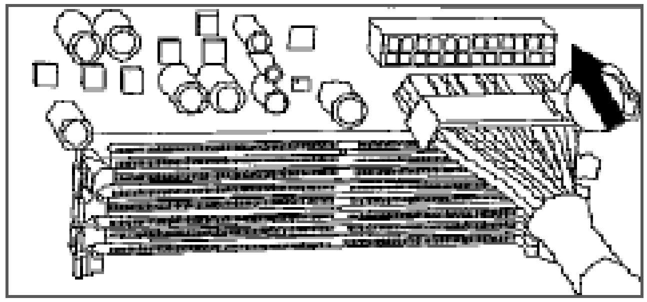
INSTALLATION:

1. You will need to remove the standard PSU adapter plate from the Antec case to allow the larger PSU to fit.

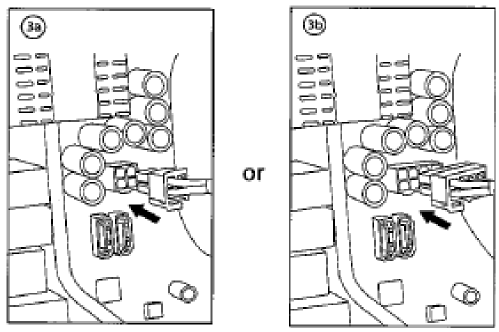


2. Install the CP-850 PSU into your case with the four screws provided.

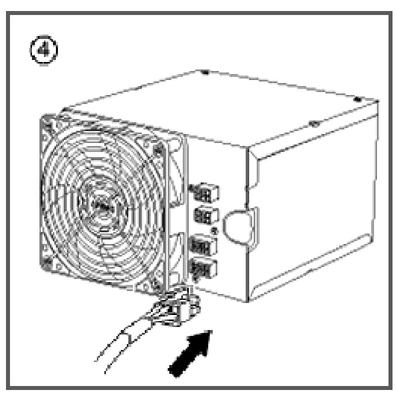
3. Connect the 24-pin main power connector to your motherboard. If your motherboard uses a 20-pin connector, detach the 4-pin attachment on the 24-pin connector.
   Note: The detachable 4-pin section cannot be used in place of a 4-pin +12V connector.



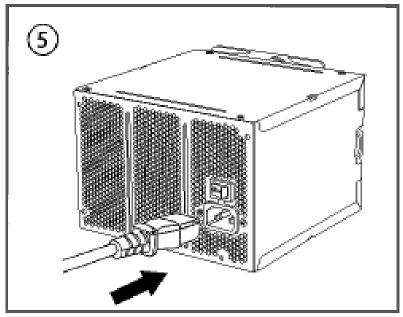
4. Connect the 8-pin or 4-pin connector for the CPU. If your motherboard has an 8-pin socket with a cover on some of the openings, we recommend that you remove the cover and use the 8-pin connector.
   Note: Please also refer to your motherboard user's manual for any special instructions.



5. Connect extra cables from the cable pack to the sockets on the power supply only if needed. If you are going to plug the PCI-E cables into the PSU, they should go into the red sockets. If the red sockets are not being used for PCI-E, then they can be used for any other type of cable supplied in the pack that accompanies the PSU.



6. Connect the AC power cord to the power supply AC inlet. Be sure to use the heavy-duty cord supplied with your CP-850.



7. PCI-E graphics cards use different amounts of power. For some, a single 6-pin connector is sufficient, and the hardwired connector is the preferred choice. More powerful cards use multiple connectors, including the advanced 8-pin PCI-E connector. The 8-pin PCI-E connector on your CP-850 can be used as either a 6- or 8-pin connector.

8. Hard drives, optical drives (CD/DVD/BluRay™), and other accessories will use either the older 4-pin Molex connector or the newer 15-pin SATA connector. 4-pin Molex connectors have two black wires, a yellow, and a red. The SATA connector has an additional orange power wire.

9. When you have all the connections secured, turn the switch on the PSU to the "|" position. You are now ready to power up your computer.

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